

Date: July 25, 2003

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-I-03-024

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region I staff on this date.

Facility

Salem Nuclear Power Station, Unit 1 & 2
Public Service Electric Gas Nuclear, LLC (PSEG)
P.O. Box 236
Hancocks Bridge, NJ
08038

Licensee Emergency Classification

☐ Notification of Unusual Event
☐ Alert
☐ Site Area Emergency
☐ General Emergency
☒ Not Applicable

Docket Nos.: 50-272; 50-311

License Nos.: DPR-70, 75

SUBJECT: ELEVATED TRITIUM LEVELS IN GROUNDWATER - NEW INFORMATION

Recent results in the ongoing evaluation of tritium groundwater contamination at Salem have identified elevated levels as compared to earlier sample results. However, the elevated levels are within the fenced and controlled restricted area, and no public or worker dose consequences are currently identified.

PSEG has been conducting a phased, systematic sampling program of groundwater around the Salem Unit 1 facility to identify the extent and magnitude of tritium contamination in groundwater at the site. The program was prompted in September 2002 by the identification of contaminated water leakage into the 78' elevation of Unit 1 Auxiliary Building, later found to be from the Unit 1 Fuel Handling Building (FHB). PSEG determined the leak to be due to clogged drain lines for the Unit 1 Spent Fuel Pool (SFP) liner leakage collection system. PSEG is now controlling the liner leakage and is collecting it via its normal collection system.

As a result of the initial sampling program, PSEG had identified tritium contamination in five of eight test wells drilled around the Unit 1 station within the restricted area, principally around and in close proximity to the Unit 1 FHB. No other radionuclides were identified in the samples. The tritium values ranged from non-detectable to 5.8 E-5 uCi/ml. This value is a small fraction of the NRC 10 CFR 20 effluent release limit of 1 E-3 uCi/ml which applies to releases from the restricted area (site boundary). PSEG's environmental monitoring program has not detected any associated contamination in the unrestricted area at the site, and no public or worker dose consequences were identified.

PSEG subsequently established a detailed Remedial Investigation Work Plan to further investigate the tritium contamination, including drilling additional sample wells. On July 23, 2003, PSEG found tritium to be 3.4 E-3 uCi/ml in one of the new wells ("S" well), within the restricted area boundary approximately 100' from the Unit 1 FHB. PSEG informed the NRC and New Jersey of this matter on July 23, 2003. No on-site or off-site dose consequences were identified. PSEG plans to formally update New Jersey with a state-required report. In light of this new information, PSEG has initiated development of additional plans to further characterize the tritium contamination, including drilling of additional wells.

NRC Region I and the State of New Jersey have been closely following PSEG's evaluations, sampling programs, and mitigation efforts for the leakage. NRC is conducting a Special Inspection. NRC and New Jersey discussed the topic at an April 29, 2003 public meeting. In light of the new information, the NRC plans to dispatch a specialist inspector to evaluate the new information and response plans.

The State of New Jersey has been notified and is closely following this matter. The State of Delaware has also been notified. Region I is prepared to respond to media inquiries.

This information is current as of 1:00 p.m. on July 25, 2003.

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